AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently amended) A process for hydrogenating nitrile functions in organic compounds in the presence of at least one heterogeneous catalyst, the process comprising hydrogenating the nitrile function of the organic compound in the presence of an ionic liquid, wherein the ionic liquid ~~is~~ comprises an anion selected from the group consisting of halides F^-, Cl^-, Br^-, I^-, acetate CH_3COO^-, trifluoroacetate CF_3COO^-, triflate $CF_3SO_3^-$, sulfate SO_4^{2-}, hydrogensulfate HSO_4^-, methylsulfate $CH_3OSO_3^-$, ethylsulfate $C_2H_5OSO_3^-$, sulfite SO_3^{2-}, hydrogensulfite HSO_3^-, chloroaluminates $AlCl_4^-$, $Al_2Cl_7^-$, $Al_3Cl_{10}^-$, tetrabromoaluminate $AlBr_4^-$, nitrite NO_2^-, nitrate NO_3^-, dichlorocuprate $CuCl_2^-$, phosphates, phosphate PO_4^{3-}, hydrogenphosphate HPO_4^{2-}, dihydrogenphosphate $H_2PO_4^-$, carbonate CO_3^{2-}, hydrogencarbonate HCO_3^-, sulfonate $-SO_3^-$, tosylate $p\text{-}CH_3C_6H_4SO_3^-$ and bis(trifluoromethylsulfonyl)imide $(CF_3SO_2)_2N$, and the ionic liquid contains phosphonium ions, or at least one five- or six-membered heterocycle which contains at least one phosphorus or nitrogen atom and optionally, a sulfur atom, an oxygen atom or both oxygen and sulfur atoms, or both the ~~phosphomium atoms~~ phosphonium ions and the at least one heterocycle.

2. (Currently amended) ~~A~~ The process according to claim 1, wherein the heterogeneous catalyst comprises a polar surface and the ionic liquid is a nonpolar ionic liquid.

3. (Currently amended) ~~A~~ The process according to claim 1, wherein the ionic liquid has a melting point below 200°C.

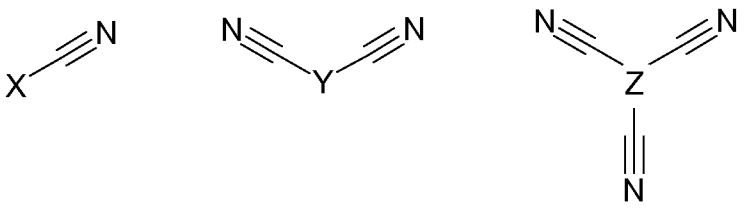
4. (Currently amended) ~~A~~ The process according to claim 1, wherein the process is conducted in the absence of ammonia.

5. (Currently amended) ~~A~~ The process according to claim 1, wherein the heterogenous catalyst or the ionic liquid are recirculated separately or together in the process if the process is a suspension process.

6. (Currently amended) ~~A~~ The process according to claim 1, wherein the heterogeneous catalyst comprises one or more metals selected from the group consisting of nickel, cobalt, copper, iron, ruthenium, rhodium, iridium, palladium and platinum.

7. (Currently amended) ~~A~~ The process according to claim 1, wherein the hydrogenation is carried out at a temperature of from 20 to 250°C and/or a pressure of from 1 to 300 bar.

8. (Currently amended) ~~A~~ The process according to claim 1, wherein the nitriles to be hydrogenated have at least one of the following structural units:



,

where X in the structural units is a linear, branched or cyclic group selected from the group consisting of alkyl, cycloalkyl, alkenyl, alkynyl, aryl, hydroxyalkyl, alkoxyalkyl, aminoalkyl and C_{1-4}-aryl and ~~y and z~~ Y and Z are selected from the group consisting of alkyl, cycloalkyl, alkenyl, alkinyl, aryl, alkoxyalkyl and aminoalkyl.

9. (CurrentlyAmended) ~~The use of ionic liquids in hydrogenations of~~ A process comprising hydrogenating nitrile functions present in organic compounds ~~over~~ wherein the process utilizes an ionic liquid and at least one heterogeneous catalyst, wherein the anions of the ionic liquid are selected from the group consisting of halides F^-, Cl^-, Br^-, I^-, acetate CH_3COO^-, trifluoroacetate CF_3COO^-, triflate $CF_3SO_3^-$, sulfate SO_4^{2-}, hydrogensulfate HSO_4^-, methylsulfate $CH_3OSO_3^-$, ethylsulfate $C_2H_5OSO_3^-$, sulfite SO_3^{2-}, hydrogensulfite HSO_3^-,

chloroaluminates $AlCl_4^-$, $Al_2Cl_7^-$, $Al_3Cl_{10}^-$, tetrabromoaluminate $AlBr_4^-$, nitrite NO_2^-, nitrate NO_3^-, dichlorocuprate $CuCl_2^-$, phosphates, phosphate PO_4^{3-}, hydrogenphosphate HPO_4^{2-}, dihydrogenphosphate $H_2PO_4^-$, carbonate CO_3^{2-}, hydrogencarbonate HCO_3^-, sulfonate $-SO_3^-$, tosylate p-$CH_3C_6H_4SO_3^-$ and bis(trifluoromethylsulfonyl)imide $(CF_3SO_2)_2N^-$ and the ionic liquid contains phosphonium ions and/or at least one five- or six-membered heterocycle which contains at least one phosphorus or nitrogen atom and, ~~if appropriate~~ optionally , a sulfur and/or oxygen atom.

10. (Currently Amended) ~~A~~ The process according to claim 1, wherein the heterogeneous catalyst comprises a nonpolar surface, and the ionic liquid is a polar ionic liquid.

11. (Currently Amended) ~~A~~ The process according to claim 1, wherein the organic compound and the resulting hydrogenated product reside in a different phase ~~or irreversible occupation of the catalyst is prevented by the ionic liquid~~.

12. (Currently Amended) ~~A~~ The process according to claim 1, wherein the heterogeneous catalyst is provided in a fixed bed and the ionic liquid is recirculated in the process.

13. (Currently Amended) ~~A~~ The process according to claim 2, wherein the ionic liquid has a melting point below 200°C.

14. (Currently Amended) ~~A~~ The process according to claim 10, wherein the ionic liquid has a melting point below 200°C.

15. (Currently Amended) ~~A~~ The process according to claim 11, wherein the ionic liquid has a melting point below 200°C.

16. (New) The process according to claim 1, wherein the ionic liquid reversibly coordinates to the catalyst and prevents occupation of the surface of the catalyst by secondary components.

17. (New) The process according to claim 1, wherein the ionic liquid coordinates weakly to the catalyst generating a polar, ionic environment that prevents occupation of the catalyst by secondary components.